

## ABSTRACT

**[0059]** A caller ID circuit is shown that uses resistors as a caller ID interface to a telephone line pair. The circuit includes a differential transconductance amplifier coupled to the telephone line pair using resistors and a common mode canceling transconductance amplifier coupled to the telephone line pair using the resistors. The invention also includes a gyrator transconductance amplifier coupled to the differential transconductance amplifier and the common mode canceling transconductance amplifier that is configured to generate an output current corresponding to a caller ID signal present at the telephone line pair. In a further refinement of the invention, the resistors are accurate resistors. In another refinement of the invention, the circuit further includes an analog to digital converter (ADC) coupled to the gyrator transconductance amplifier, where the ADC converts the output current from the gyrator transconductance amplifier into a pulse-width-modulated (PWM) signal.

CH02/22293043.2